



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,631	07/02/2003	Charles C. Hart	A-2202-AL	3645
21378 7590 07/20/2009 APPLIED MEDICAL RESOURCES CORPORATION 22872 Avenida Empresa Rancho Santa Margarita, CA 92688				
EXAMINER YABUT, DIANE D				
ART UNIT		PAPER NUMBER		
3734				
MAIL DATE		DELIVERY MODE		
07/20/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/612,631

Applicant(s)

HART ET AL.

Examiner

DIANE YABUT

Art Unit

3734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-31, 33-40 and 42-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-31, 33-40 and 42-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/27/2009 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 26-31, 33-40, and 42-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daley, Jr., hereinafter "**Daley**," (U.S. Patent No. **5,112,255**) in view of Toso et al., hereinafter "**Toso**" (U.S. Patent No. **5,282,832**) and **Chen** (U.S. Patent No. **5,160,339**).

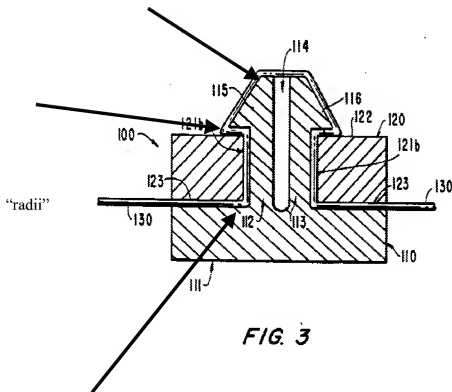
Claims 26-28: Daley discloses a first interlocking member **38** having a base with a width, a first half and a second half, the width being equal or smaller than the length, a protrusion **44** extending from a periphery or first half of the base, a standing portion **42** extending widthwise from the base adjacent to the protrusion, the protrusion being substantially smaller than the standing portion, a mating window **46** disposed through the base or the second half of the base

adjacent to the standing portion and extending widthwise on the second half of the base, and a mating hole **48** disposed through the base adjacent to the mating window, the mating hole being substantially smaller than the mating window, and a second interlocking member **40** operably connecting with the first interlocking member, the second interlocking member also having a protrusion, mating hole, standing portion, and mating window, with the protrusion operably connecting to the mating hole **48** of the first interlocking member, the standing portion operably connecting to the mating window **46** of the first interlocking member, and the mating window and mating hole operably connecting to the standing portion **42** and protrusion **44**, respectively, of the first interlocking member (Figure 4). Daley discloses that the standing portion and the mating window are sized and configured to engage and confine suture ends, with the suture ends positioned over the standing portion and in the mating window, when the standing portion and the mating window are mated together.

Daley discloses the claimed device except for the standing portion of the first interlocking member including a suture path surface offset from the base and configured to receive a portion of the suture, wherein the suture path surface extends at least partially into the mating window on the second interlocking member, with the suture being retained in a convoluted pathway having radii configured to lightly compress the suture, as well as the standing portion having a free end with two substantially straight portions connected by a substantially curved portion defining the suture path surface.

Toso teaches a standing portion having two substantially straight portions **112** and **113** of a first interlocking member **110** including a suture path surface offset from the base connected by a substantially curved portion **114** and configured to receive a portion of a suture **130**, wherein

the suture path surface extends at least partially into a mating window 121 on a second interlocking member 120 with the suture being retained in a convoluted pathway having radii (see arrows pointing at “radii” in annotated Figure below) configured to lightly compress the suture (Figures 1-3). Although the pathway radii surfaces are not circular or curved except at curved portion 114 in Toso, Daley teaches that the standing portion or protrusion may be any suitable shape, which may be cylindrical with rounded edges, and therefore would form radii along the convoluted pathway (col. 7, lines 42-43). In addition, Chen et al. teach that having a convoluted pathway with radii in clamping surfaces advantageously increases the length of suture that is securely clamped (col. 3, lines 40-47).



It would have been obvious to one of ordinary skill in the art at the time of invention to provide a suture path surface on the standing portion creating a convoluted pathway, as taught by Toso and Chen, to Daley since it was known in the art that a tortuous suture path may facilitate traction or create friction at multiple bends when the interlocking members are locked together, and therefore may provide higher retentive forces (col. 2, lines 30-40, Toso) and two straight portions on the standing portion to create a snap fit or locking mechanism (see abstract in Toso). It is noted that although Toso does not expressly disclose the curved portion **114** defining the suture path surface, it is capable of holding a suture and acting as a suture path surface, and therefore reads on the limitation of claim 27.

Claim 29: Daley discloses the standing portion **42** of the first interlocking member having a width and a length, the width being equal to or greater than the length and the length of the standing portion of the first interlocking member being less than the length of the base of the first interlocking member (Figure 4).

Claims 30, 34-37, 39, and 43-46, 48-49: Daley and Toso disclose the claimed device, except for the protrusions of one of the first interlocking member and the second interlocking member being cylindrical and being sized and configured to match opposing mating holes, and the standing portions of one of the first interlocking member and the second interlocking member further comprising locking or latching features, or the increased end diameters, and the mating windows of one of the first interlocking member and the second interlocking member further comprising receiving portions to mate with the locking features of the standing portions of one of the first interlocking member and the second interlocking member, and the barbs or increased

end diameters or locking or latching features of the standing portions being in a non-contacting relationship with a suture.

However, Daley discloses the use of cylindrical connectors **42** and locking or latching features or increased end diameters **44** that extend through receiving portions **48, 50** for mating first and second interlocking members together. It would have been obvious to one of ordinary skill in the art at the time of invention to modify any of the protrusion, standing portion, mating hole, or mating window of Daley and Toso with these features since it was well known in the art that connectors may take various shapes and configurations provided that they will securely mate with an aperture of like configuration in a male/female connecting relationship.

Claims 31 and 40: Daley discloses the protrusions **44** of one of the first interlocking member and the second interlocking member further comprising barbs or having increased end diameters to engage opposing mating holes of one of the first interlocking member and the second interlocking member in a fixed relationship when fully mated (Figure 4).

Claims 33 and 42: Daley discloses the first and second interlocking members may be advanced, retracted, or adjusted along the length of a suture (Figure 4).

Claims 38 and 47: Daley and Toso disclose the claimed device including the standing portions of one of the first interlocking member and the second interlocking member being extendable through the mating window of one of the first interlocking member and the second interlocking member except for the standing portion being foldable onto an exterior surface of one of the first interlocking member and the second interlocking member away from the suture. This foldable feature is well known in the surgical art, as is with locking members or engaging members, such as clips or staples that are foldable onto the exterior surface of devices or tissues in order

maintain secure engagement, and therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the standing portions of Daley and Toso with a foldable feature to securely lock onto an exterior surface.

Response to Arguments

3. Applicant's arguments filed 05/27/2009 have been fully considered but they are not persuasive.
4. Applicant argues that the recited subject matter is not disclosed by either Daley, Toso, or Chen regarding at least a portion of a suture being retained in a convoluted pathway having radii configured to lightly compress the suture since Daley discloses a planar securing mechanism, and Toso teaches sharp bends, and Chen teaches complementary radii to highly compress suture. However, as discussed above, Daley does disclose having a rounded protrusion or standing portion **42** in Figure 4, having rounded surfaces and therefore may provide a convoluted pathway for lightly compressing suture, but doesn't expressly disclose a suture going through a convoluted pathway. The teaching of Toso is meant to modify the standing portion **42** of Daley by having "two substantially straight portions" **112** instead of just one protrusion, which may both be rounded as in Daley, since Daley teaches that the protrusion may be any suitable shape (col. 7, lines 42-43), which would also create a convoluted pathway with radii for a suture. Toso also teaches that having a suture retained through a convoluted pathway facilitates traction or friction for a secure fit. Chen teaches using convoluted pathways for retaining suture, which reinforces the combination of Daley and Chen, in order to increase the length of suture that is

securely clamped (col. 3, lines 40-47). Therefore, the prior art of record does teach providing a suture pathway that is convoluted with radii to lightly compress suture.

5. Applicant also argues that the combination of Daley and Toso is not obvious and that they are nonanalogous art. However, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. Both Daley and Toso are clip members with opposing engagement members, wherein Toso provides the advantage of creating a snap fit or locking mechanism with two straight portions on a standing portion, as well as teaching a tortuous suture path that facilitates traction or friction, and therefore the modification would have occurred to one of ordinary skill in the art.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIANE YABUT whose telephone number is (571)272-6831. The examiner can normally be reached on M-F: 9AM-4PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Todd Manahan can be reached on (571) 272-4713. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/612,631
Art Unit: 3734

Page 10

/Diane Yabut/
Examiner, Art Unit 3734

/Todd E Manahan/
Supervisory Patent Examiner, Art Unit 3734